EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHEN DISTRCT OF ILLINOIS
EASTERN DIVISION

PSN ILLINOIS, LLC, an Illinois corporation,	)	
Plaintiff,	)	**Case No.**
vs.	)	**COMPLAINT FOR PATENT INFRINGEMENT**
Sigma-Aldrich Corp., EMD Biosciences Inc., VWR International LLC, Orbigen, Inc., Axxora Life Sciences, Inc., Cayman Chemical Company, Inc., Origene Technologies, Inc., Superarray Bioscience Corp., Tocris Bioscience, and Millipore Corp.	)	FILED: JULY 1, 2008 08CV3742 JUDGE PALLMEYER MAGISTRATE JUDGE VALDEZ TG
Defendants.	)	**DEMAND FOR JURY TRIAL**

COMPLAINT

1. Plaintiff, PSN ILLINOIS, LLC. ("PSN"), complains of defendants ("Defendants") as follows:

NATURE OF LAWSUIT

2. This is a claim for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

THE PARTIES

3. PSN is an Illinois corporation with a place of business at 280 W. Adams Street, Chicago, Illinois 60604. PSN is the assignee of, and owns all rights, title and interest in and to, and has standing to sue for past, present and future infringement of: United States Patent No. 5,856,443, entitled "Molecular Cloning And Expression of G-Protein Coupled Receptors," issued on Jan. 5, 1999 ("the '443 patent") (Exhibit A); and

United States Patent No. 6,518,414B1, entitled "Molecular Cloning And Expression of G-Protein Coupled Receptors," issued on Feb. 11, 2003 ("the '414 patent") (Exhibit B) (collectively "PSN's Patents").

4. Defendant Sigma-Aldrich Corp. (Sigma) is a company incorporated in Delaware with a principal place of business at 3050 Spruce Street, St. Louis, MO 63103. Sigma transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

5. Defendant EMD Biosciences Inc. (EMD) is a company incorporated in New York with principal places of business at 10394 Pacific Center Court, San Diego, CA 92121, 441 Charmany Drive, Madison, WI 53719, and 480 S. Democrat Road, Gibbstown, NJ 08027. EMD transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

6. Defendant VWR International LLC (VWR) is a company incorporated in Delaware with its principal place of business at 1310 Goshen Parkway, West Chester, PA 193850. VWR transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

7. Defendant, Orbigen, Inc. (Orbigen) is a company incorporated in California with its principal place of business at 6827 Nancy Ridge Drive, San Diego, CA 92121. Orbigen transacts business and has sold to customers and/or offered for sale, in

this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

8. Defendant, Axxora Life Sciences, Inc. (Axxora) is a company incorporated in Delaware with its principal place of business at 6181 Cornerstone Court East, Suite 103, San Diego, CA 92121. Axxora transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

9. Defendant, Cayman Chemical Company Inc. (Cayman) is a company incorporated in Colorado with its principal place of business at 1180 E. Ellsworth Rd., Ann Arbor, MI 48108. Cayman transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

10. Defendant, Origene Technologies, Inc. (Origene) is a company incorporated in Delaware with its principal place of business at 6 Taft Court, Suite 300, Rockville, MD 20850. Origene transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

11. Defendant, Superarray Bioscience Corporation (Superarray) is a company incorporated in Delaware with its principal place of business at 15 Wormans Mill Court, Suite 101, Frederick MD 21701. Superarray transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

12. Defendant, Tocris Bioscience (Tocris) is a company incorporated in Delaware with its principal place of business at 16144 Westwoods Business Park, Ellisville, MO 63021. Tocris transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

13. Defendant, Millipore Corporation (Millipore) is a company incorporated in Massachusetts with its principal place of business at 290 Concord Rd. Billerica, MA 01821. Millipore transacts business and has sold to customers and/or offered for sale, in this judicial district, products and services that infringe claims of one or more of the MacLennan Patents, as discussed below.

JURISDICTION AND VENUE

14. This Court has exclusive jurisdiction over the subject matter of the Complaint under 28 U.S.C. §§ 1331 and 1338(a).

15. Venue in this judicial district is proper under 28 U.S.C. §§ 1391(b), (c), (d) and/or 1400(b).

THE DEFENDANTS' ACTS OF PATENT INFRINGEMENT

16. Defendant Sigma has infringed claims of at least the '443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including the following products:

i. S1P2 C-Terminal Blocking Peptide (Catalog # E8028);

ii. Anti-S1P2, C-Terminal antibody produced in rabbit (Catalog # E7278);

iii. Monoclonal Anti-S1P2, C-Terminal antibody produced in mouse (Catalog # E4767); and

iv. Monoclonal Anti-S1P2, N-Terminal antibody produced in mouse (Catalog # E4892).

17. Defendant EMD has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including the following: Anti- EDG 5 (Ab-1) Mouse mAb (Catalog # GR44).

18. Defendant VWR has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including the following: S1P2 Receptor Antagonist (Catalog # 80017-352).

19. Defendant Orbigen has infringed claims of at least the'443 and '414 patents through, among other activities, the manufacture, use, offer for sale, sale, and/or distribution of products and service utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including these products:

i. Rabbit Endothelial differentiation sphingolipid G-protein-coupled receptor 5 (EDG5) polyclonal antibody (Catalog # PAB-10630); and

ii. Chicken Endothelial differentiation sphingolipid G-protein-coupled receptor 5 (EDG5) polyclonal antibody (Catalog # PAB-U0005).

20. Defendant Cayman has infringed claims of at least the '443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and service utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including the following: JTE-013 (Catalog # 10009458).

21. Defendant Axxora has infringed claims of at least the '443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and service utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including at least the following product corresponding to Cayman catalog: JTE-013 (Catalog # CAY-1009458).

22. Defendant Origene has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including these products:

i. Homo sapiens endothelial differentiation, sphingolipid G-protein coupled receptor, 5 (EDG5) as 10ug transfection ready DNA NM_004230.2 (Catalog # SC117485);

ii. HuSH 29mer shRNA Constructs against EDG5 Locus ID = 9294 (Catalog # TR313297);

iii. ORF Clone of Homo sapiens endothelial differentiation, sphingolipid G-protein-coupled receptor, 5 (EDG5) as 10 ug transfection ready DNA NM_004230.2 (Catalog # RC210163); and

iv. shRNA constructs against Mus musculus Edg5 Locus ID = 14739 (Catalog # TR513284).

23. Defendant Superarray has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including these products:

i. Human G-Protein-Coupled Receptor Signaling PathwayFinder™ (Catalog # PAHS-071);

ii. RT^2 PCR Primer Set for Mouse EDG 5: Endothelial differentiation, sphingolipid G-protein coupled receptor, 5 (Catalog # PPM05309A);

iii. Oglio GE Array Human G-Protein-Coupled Receptor Signaling PathwayFinder™ (Catalog # OHS-071 and EHS-071); and

iv. SureSilencing shRNA Plasmid for Human EDG5: Endothelial differentiation, sphingolipid G-protein coupled receptor, 5 (Catalog # KHO2350G for the GFP marker or KH02350N for the Neomycin resistance marker).

24. Defendant Tocris has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of

products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including at least the following product: S1P receptor antagonist, highly selective for S1P2 (EDG-5) (Catalog # 2392 JTE-013).

25. Defendant Millipore has infringed claims of at least the'443 and '414 patents through, among activities, the manufacture, use, offer for sale, sale, and/or distribution of products and services utilizing Sphingosine 1-Phosphate Receptor 2/ aka Edg 5/ aka $_{P}^{H218}$ ("S1P2") that fall within the scope of claims of these patents, including these products and services:

i. EDG5 AdenoSilence™ RNAi Virus Human (Catalog # GAL 10065-V7);

ii. EDG5 AdenoSilence™ RNAi Virus Human (Catalog # GAL 10065-V6);

iii. EDG5 AdenoSilence™ RNAi Virus Human (Catalog # GAL 10065-V5);

iv. EDG5 AdenoSilence™ RNAi Kit Human (Catalog # GAL 10065);

v. ChemiSCREEN™ S1P2 Calcium-Optimized FLIPR Cell Lines (Catalog # HTS078C);

vi. ChemiSCREEN™ Human Recombinant S1P2 Lysophospholipid Receptor Calcium Optimized Ready to Assay™ (Catalog # HTS078F);

vii. ChemiSCREEN™ Human Recombinant S1P2 Lysophospholipid Receptor Membrane Preparation (Catalog # HTS0078M); and

viii. GPCRProfiler Services which screens compounds on receptors including the S1P2 receptor.

26. The defendants' infringement, contributory infringement and inducement to infringe have injured and will continue to injure PSN unless and until this Court enters an injunction prohibiting further infringement and, specifically, enjoining further manufacture, use, offer for sale, sale and/or distribution of products and/or processes that fall within the scope of PSN's Patents.

PRAYER FOR RELIEF

WHEREFORE, PSN asks this Court to enter judgment against the defendants, and against their subsidiaries, affiliates, agents, servants, employees and all persons in active concert or participation with them, granting the following relief:

A. An award of damages adequate to compensate PSN for the infringement of PSN's Patents that has occurred, together with prejudgment interest.

B. Increased damages as permitted under 35 U.S.C. § 284.

C. A finding that the case is exceptional and an award to PSN of its attorney fees and costs as provided by 35 U.S.C. § 285.

D. A permanent injunction prohibiting further infringement, inducement and contributory infringement of PSN's Patents.

E. Such other and further relief as this Court or a jury may deem proper and just.

JURY DEMAND

PSN demands a trial by jury on all issues presented in this Complaint.

FOR PSN ILLINOIS, LLC

/s/ Michael P. Mazza
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JUDGE PALLMEYER
MAGISTRATE JUDGE VALDEZ
TG

EXHIBIT A

US005856443A

United States Patent [19]

MacLennan

[11] Patent Number: 5,856,443

[45] Date of Patent: *Jan. 5, 1999

[54] **MOLECULAR CLONING AND EXPRESSION OF G-PROTEIN COUPLED RECEPTORS**

[76] Inventor: **Alexander John MacLennan**, 7811 NW. 35th Pl., Gainesville, Fla. 32606

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,585,476.

[21] Appl. No.: **760,936**

[22] Filed: **Dec. 6, 1996**

Related U.S. Application Data

[63] Continuation of Ser. No. 196,989, Feb. 15, 1994, Pat. No. 5,585,476.

[51] **Int. Cl.**[6] **C07K 14/705**; C12N 15/12

[52] **U.S. Cl.** **530/350**; 435/69.1; 435/252.3; 435/320.1; 536/23.5

[58] **Field of Search** 435/69.1, 252.3, 435/320.1; 530/350; 536/23.5

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Okasaki et al. *Biochem. and Biophys. Comm.* 190(3):1104–1109, 15 Feb. 1993.

Primary Examiner—John Ulm

Attorney, Agent, or Firm—Saliwanchik, Lloyd & Saliwanchik

[57] **ABSTRACT**

The cloning and expression of two novel rat cDNAs ("H218"and "rat-edg") which encode two members ("p^{H218}" and "$p^{rat\text{-}edg}$") of the G-protein coupled receptor superfamily of proteins is described. The amino acid sequence similarity between "p^{H218}" and "$p^{rat\text{-}edg}$" suggests that they may be activated by the same endogenous ligand (s). The expression pattern of mRNA transcripts of both genes in cell lines, various rat tissues and developing rat brain suggests that they both play a role in cell proliferation and/or differentiation. The polynucleotide molecules, proteins, and antibodies of the subject invention can be used in both diagnostic and therapeutic applications.

5 Claims, 12 Drawing Sheets

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-35  CCCCCCCCCCCCTCGAGCACAGCCAACACAGTCACCAAAGTCAGCCACTGGCTGTCCCGG
     GGCGCAGACGCCAAGGCCACTCAGGCCAGGGCAGGGACCCTGGCCGGCCTAGCCAGTGCT
     CAGTCCCATGGCCCCGGCCGGCCACTGAGCCCCACCATGGCGCGGTTTATACTCAGAGTAC
                                                    MetGlyGlyLeuTyrSerGluTyr   8

  25 CTCAATCCTGAGAAGGTTCAGGAACACTACAATTACACCAAGGAGACGCTGGACATGCAG
     LeuAsnProGluLysValGlnGluHisTyrAsnTyrThrLysGluThrLeuAspMetGln  28

  85 GAGACGCCCTCCCGCAAGGTGGCCTCCGCCTTCATCATCATTTTATGCTGTGCCATCGTG
     GluThrProSerArgLysValAlaSerAlaPheIleIleLeuCysCysAlaIleVal     48

 145 GTGGAGAACCTTCTGGTGCTAATCGCAGTGGCCAGGAACAGCAAGTTCCACTCAGCCATG
     ValGluAsnLeuLeuValLeuIleAlaValAlaArgAsnSerLysPheHisSerAlaMet  68

 205 TACCTGTTCCTCGGCAACCTGGCAGCCTCCGACCTGCTGGCAGGCGTGGCCTTCGTGGCC
     TyrLeuPheLeuGlyAsnLeuAlaAlaSerAspLeuLeuAlaGlyValAlaPheValAla  88

 265 AACACCTTGCTCTCCGGACCTGTCACCCTGTCCTTAACTCCCTTGCAGTGGTTTGCCCGA
     AsnThrLeuLeuSerGlyProValThrLeuSerLeuThrProLeuGlnTrpPheAlaArg 108

 325 GAGGGTTCAGCCTTCATCACGCTCTCTGCCTCGGTCTTCAGCCTCCTGGCCATTGCCATC
     GluGlySerAlaPheIleThrLeuSerAlaSerValPheSerLeuLeuAlaIleAlaIle 128

 385 GAGAGACAAGTGGCCATCGCCAAGGTCAAGCTCTACGGCAGTGACAAAAAGCTGTCGAATG
     GluArgGlnValAlaIleAlaLysValLysLeuTyrGlySerAspLysSerCysArgMet 148

 445 TTGATGCTCATTGGGGCCTCTTGGCTGATATCGCTGATTCTGGGTGGCTTGCCCATCCTG
     LeuMetLeuIleGlyAlaSerTrpLeuIleSerLeuIleLeuGlyGlyLeuProIleLeu 168

 505 GGCTGGAATTGTCTGGACCATCTGGAGGCTTGCTCCACTGTGCTGCCCCTCTATGCTAAG
     GlyTrpAsnCysLeuAspHisLeuGluAlaCysSerThrValLeuProLeuTyrAlaLys 188

 565 CACTATGTGCTCTGCGTGGTCACCATCTTCTCTGTCATCTTACTGGCTATCGTGGCCTTG
     HisTyrValLeuCysValValThrIlePheSerValIleLeuLeuAlaIleValAlaLeu 208
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FIG. 1A

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625  TACGTCCGAATCTACTTCGTAGTCCGCTCAAGCCATGCGGACGTTGCTGGTCCTCAGACG
       TyrValArgIleTyrPheValValArgSerSerHisAlaAspValAlaGlyProGlnThr   228

685  CTGGCCCTGCTCAAGACAGTCACCATCGTACTGGGTGTTTTCATCATCTGCTGGCTGCCG
       LeuAlaLeuLeuLysThrValThrIleValLeuGlyValPheIleIleCysTrpLeuPro   248

745  GCTTTTAGCATCCTTCTCTTAGACTCTACCTGTCCCGTCCGGGCCTGTCCTGTCCTCTAC
       AlaPheSerIleLeuLeuLeuAspSerThrCysProValArgAlaCysProValLeuTyr   268

805  AAAGCCCATTATTTCTTTGCCTTCGCCACCCTCAACTCTCTGCTCAACCCTGTCATCTAT
       LysAlaHisTyrPhePheAlaPheAlaThrLeuAsnSerLeuLeuAsnProValIleTyr   288

865  ACATGGCGTAGCCGGACCTTCGGAGGGAGGTACTGAGGCCCCTGCTGTGCTGGCGGCAG
       ThrTrpArgSerArgAspLeuArgArgGluValLeuArgProLeuLeuCysTrpArgGln   308

925  GGGAAGGGAGCAACAGGGCGCAGAGGTGGGAACCCTGGTCACCGACTCCTGCCCCTCCGC
       GlyLysGlyAlaThrGlyArgArgGlyGlyAsnProGlyHisArgLeuLeuProLeuArg   328

985  AGCTCCAGCTCCCTGGAGAGAGGCTTGCATATGCCTACATCGCCAACATTTCTGGAGGGC
       SerSerSerSerLeuGluArgGlyLeuHisMetProThrSerProThrPheLeuGluGly   348

1045 AACACAGTGGTCTGAGGGGAAATGTGAACTGATCTGTAACCAAGCCACAGAGAGCTCT
       AspThrValVal                                                   352
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FIG. 1B

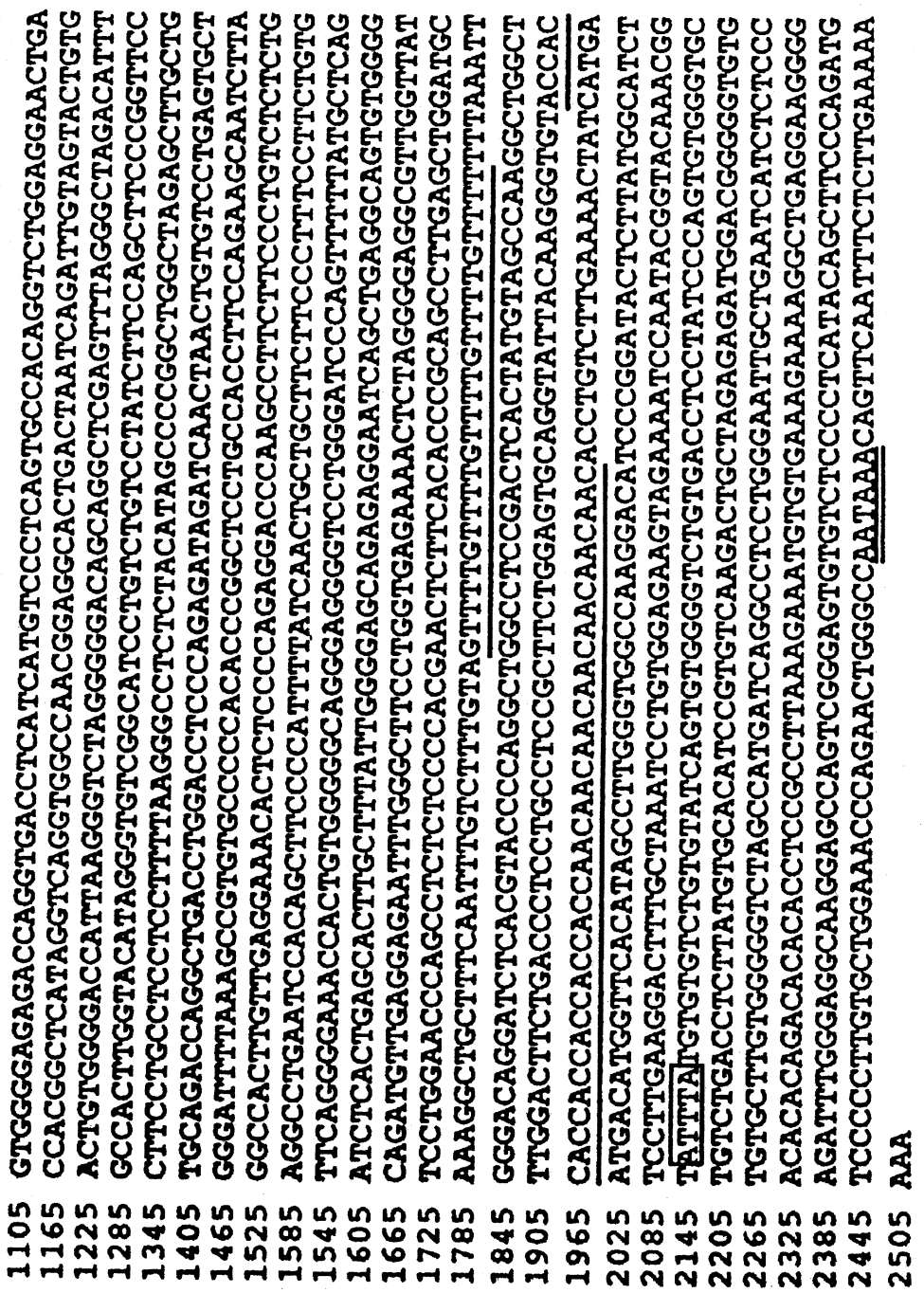
1105 GTGGGGAGAGACCAGGTGACCTCATCATGTCCCTCAGTGCCACAGGTCTGGAGGAACTGA
1165 CCACGGCTCATAGGTCAGGTGGCCAACGGAGGCACTGACTAATCAGATTGTAGTACTGTG
1225 ACTGTGGGGACCATTAAGGGTCTAGGGGGACAGCAGGCTCGAGTTTAGGGCTAGACATTT
1285 GCCACTTGGTACATAGGGTGTCGGCATCCTGTCTGTCCTATCTTCCAGCTTCCCGGTTCC
1345 CTTCCTGCCTCCTCCTTTTAAGGGCCTCTCTACATAGCCCCGGCTGGCTAGAGCTTGCTG
1405 TGCAGACCAGGCTGACCTGGACCTCCCAGAGATAGATCAACTAACTGTGTCCTGAGTGCT
1465 GGGATTTTAAAGCCGTGTGCCCCCACACCCGGCTCCTGCCACCTTCCAGAAGCAATCTTA
1525 GGCCACTTGTTGAGGAAACACTCTCCCCAGAGGACCCAAGCCTTCTTCCCTGTCTCTCTG
1585 AGGCCTGAATCCACAGCTTCCCCCATTTTATCAACTGCTGCTTCTTCCCTTTCCTTCTGTG
1545 TTCAGGGGAAACCACTGTGGGGGCAGGGAGGGGTCCTGGGATCCCAGTTTTTTATGCTCAG
1605 ATCTCACTGAGCACTTGCTTTATTGGGGAGCAGAGAGGAATCAGCTGAGGCAGTGTGGGG
1665 CAGATGTTGAGGAGAATTTGGGCTTCCTGGTGAGAAAACTCTAGGGGAGGCGTTGGTTAT
1725 TCCTGGAACCCAGCCTCTCTCCCCACGAACTCTTCACACCCGCAGCCTTGAGCTGGATGC
1785 AAAGGCTGCTTTCAATTTGTCTTTGTAGTTTTTGTTTTTGTTTTTTTTAAATT
1845 GGGACAGGATCTCACGTACCCCAGGCTGGCCTCCGACTCACTATGTAGCCAAGGCTGGCT
1905 TTGGACTTCTGACCCTCCTGCCTCCGCTTCTGGAGTGCAGGTATTACAAGGGTGTACCAC
1965 CACCACCACCACCAACAACAACAACACCTGTCTTGAAAACTATCATGA
2025 ATGACATGGTTCACATAGCCTTGGGTGGCCAAGGACATCCCGGATACTCTCTTATGGCATCT
2085 TCCTTGAAGGACTTTGCTAAATCCTGTGGAGAAGTAGAAAATCCAATACGGTACAAACGG
2145 TATTTATGTGTGTCTGTGTATCAGTGTGGGGTCTGTGACCTCCTATCCCAGTGTGGGTGC
2205 TGTCTGACCTCTTATGTGCACATCCGTGTCAAGACTGCTAGAGAGATGGACGGGGGTGTG
2265 TGTGCTTGTGGGGGTCTAGCCATGATCAGGCCTCCTGGGAATTGCTGAATCATCTCTCCC
2325 ACACACAGACACACACCTCCGCCTTAAGAAATGTGTGAAAGAAAAGGCTGAGGAAGGGG
2385 AGATTTGGGAGGCAAGGAGCCAGTCGGGAGTGTGTCTCCCCCTCATACAGCTTCCCAGATG
2445 TCCCCCTTGTGCTGGAAACCCAGAACTGGGCCAATAAACAGTTCAATTTCTCTTGAAAAA
2505 AAA

FIG. 1C

FIG. 2A

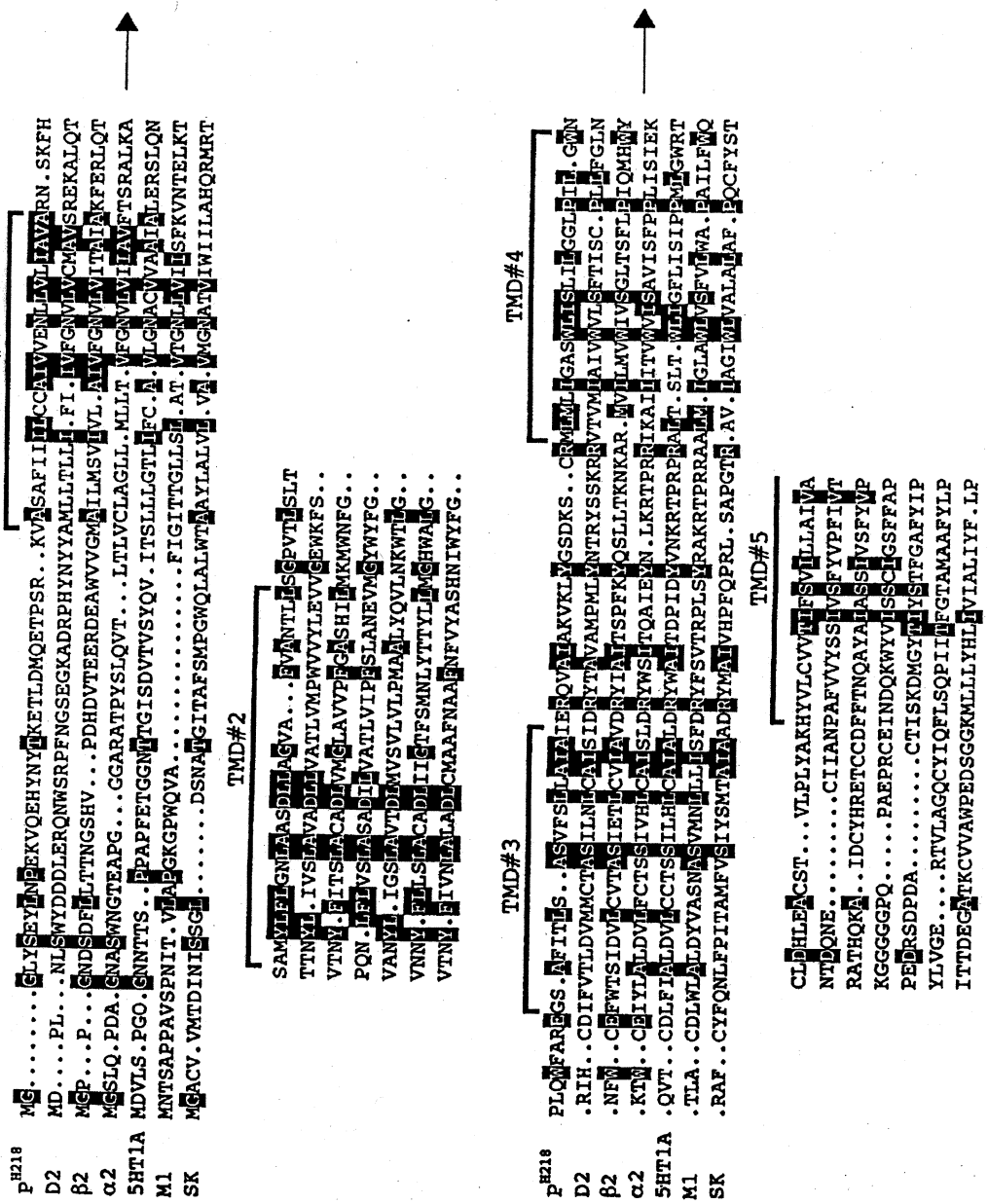

FIG. 2B

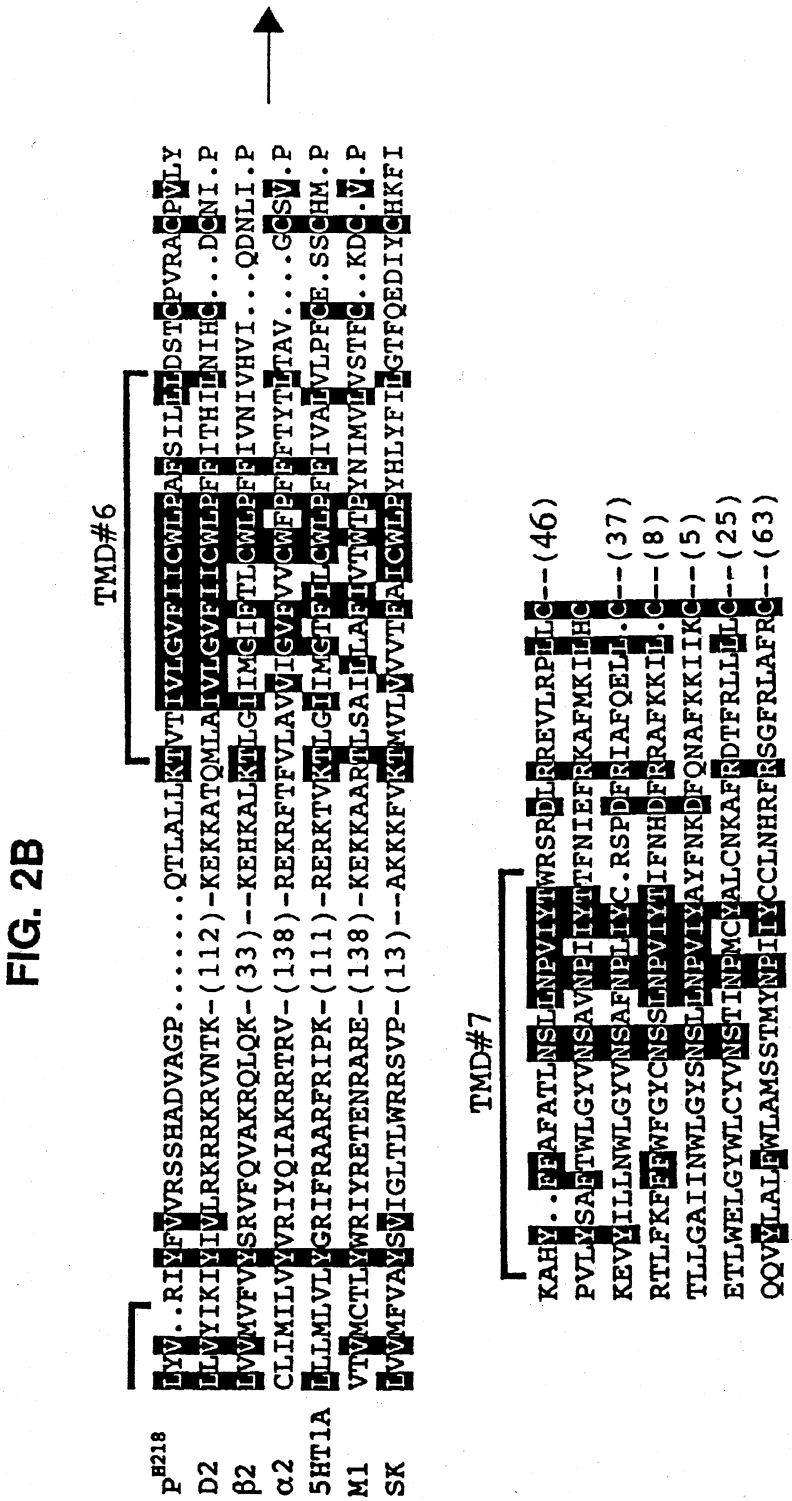

FIG. 3A

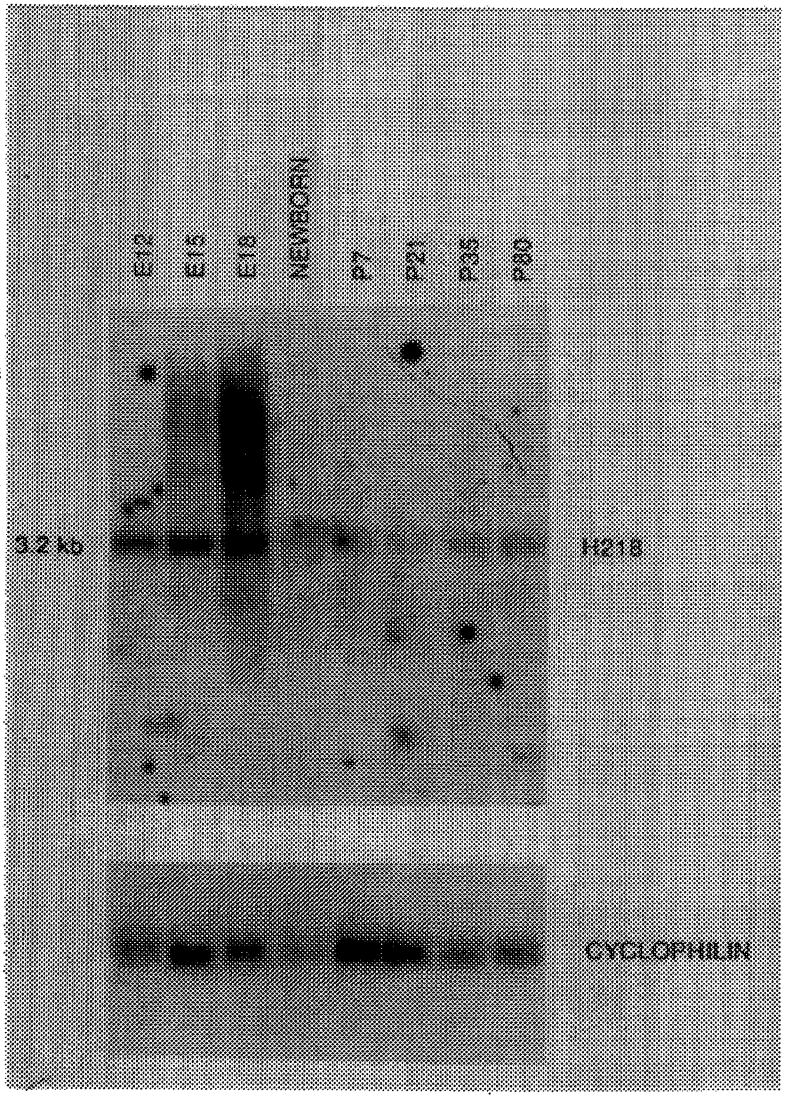

FIG. 3B

FIG. 4A

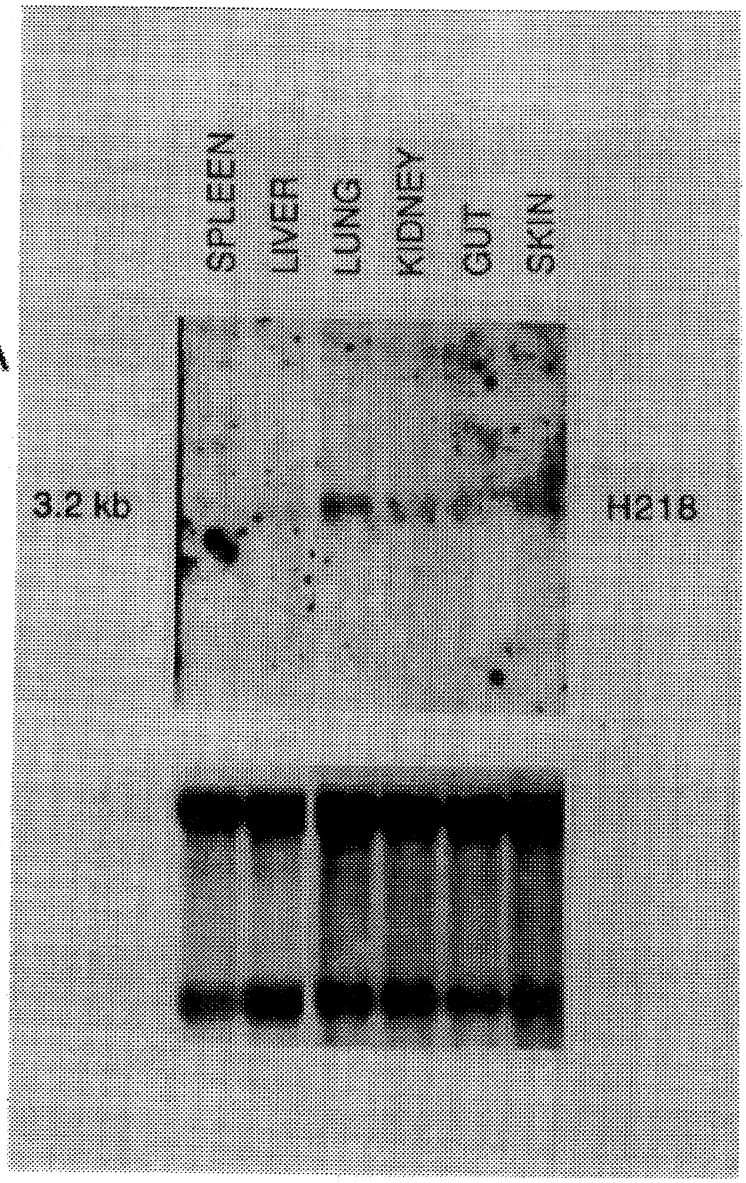

FIG. 4B

FIG. 5A

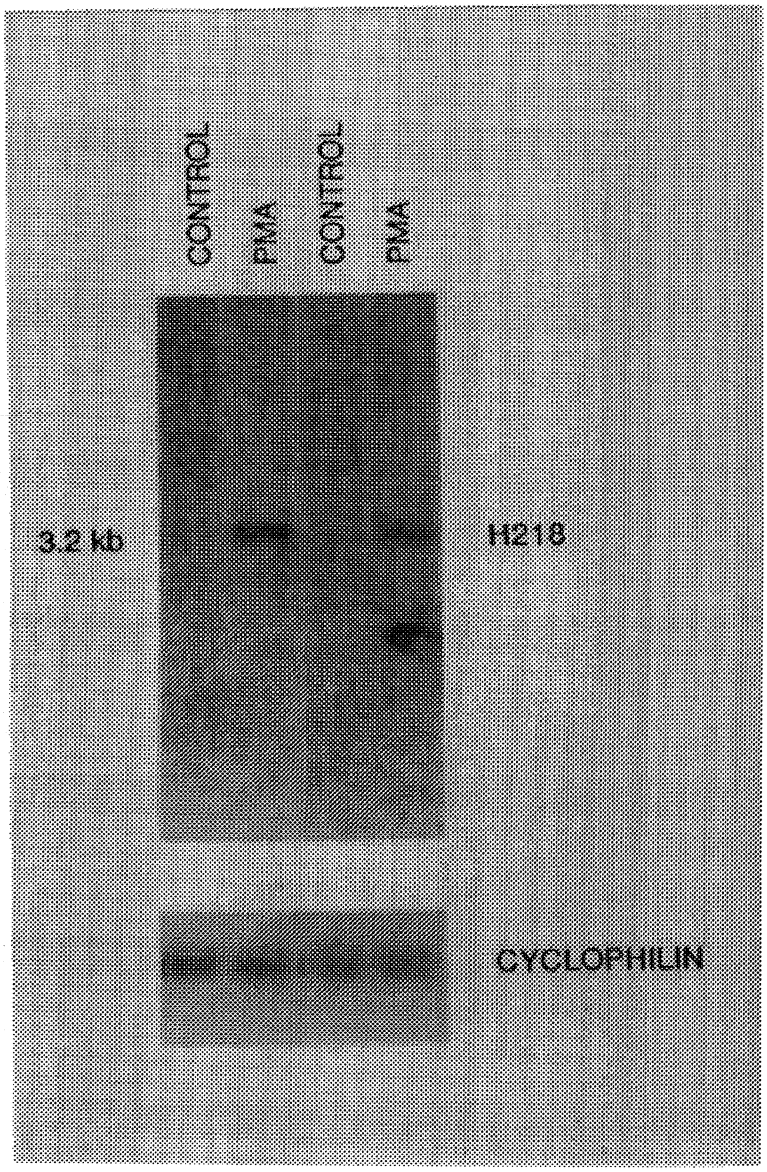

FIG. 5B

FIG. 6A

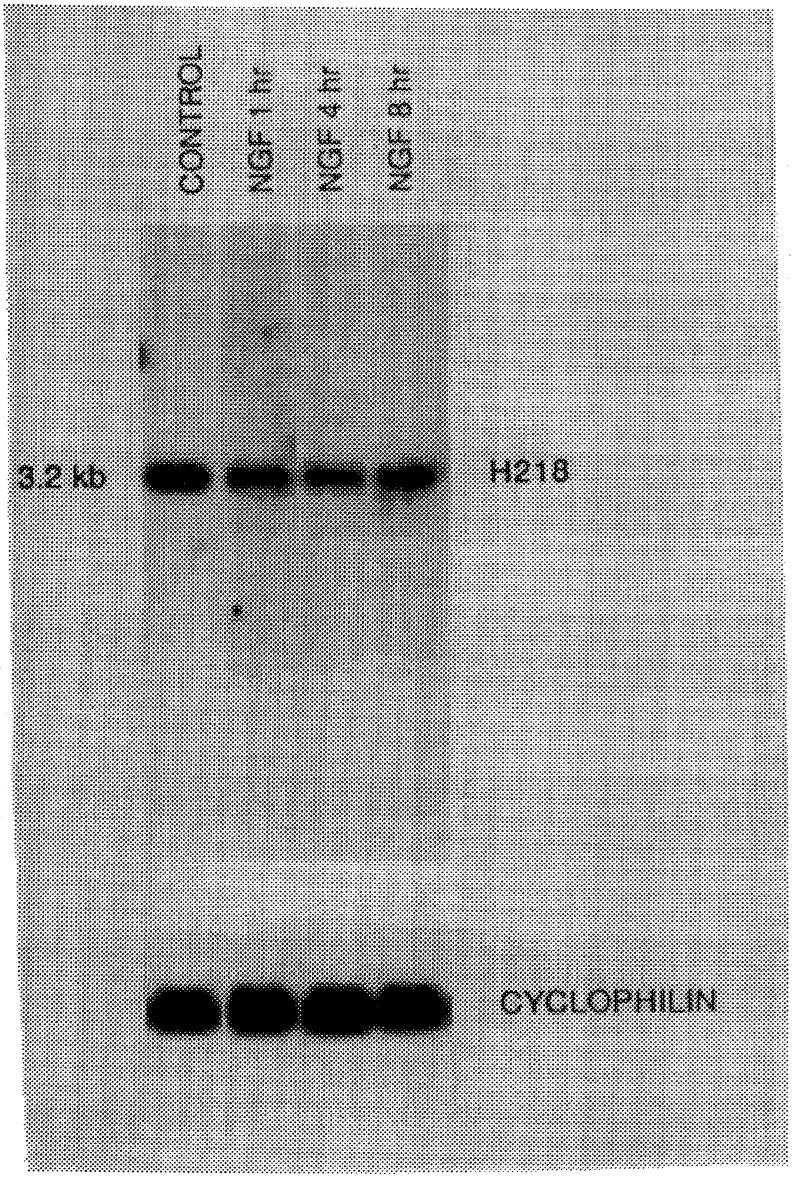

FIG. 6B